

Conclusion

In the last seven chapters, we learned much about the history of printing and how it has evolved over the last few centuries. Today, in the digital age, any sustainable-minded person may need to consider electronic versus paper communication.

While it is true that both can (and should) be used in concert with each other, is one better than the other from a sustainability standpoint? The answer is a resounding “YES”.

Consider the issue of inputs/raw materials being renewable. Printed communication uses paper as its primary material. Paper comes from trees, which are a renewable resource. Trees have been a renewable source longer than humans have been on the planet. Since this is the case, and since forest product companies rely on trees for their products, they take great care to “renew” their main resource. The forest product industry plants 1.7 million trees per day, more than three times what they harvest. The primary materials used to make a computer require the mining and refining of many different metals and minerals (including gold, silver and palladium). These are non-renewable resources, given that an individual cannot just “plant” a metal or mineral.

In addition, paper and printed pieces have a leg up on the electronic medium when it comes to energy consumption. 60% of the energy required to manu-

facture paper in the U.S. comes from carbon neutral sources and is produced onsite at the paper mills. Compare that to the electronics industry, which obtains over 90% of its power from the national power grid, a large part of which is greenhouse gas-emitting, coal-powered plants.

Online and Electronic Alternatives are not Green

Although electronic alternatives offer a faster method of accessing information, it is not greener or better for the environment. The transaction of sending information electronically burns electrons. The environment is forever marked by the emissions from the power plants needed to produce the electrons to power the internet. The landfills are also impacted because they will eventually hold hardware and other electronic trash. On the other hand, paper is made from trees. Trees can be continuously planted and harvested. It is a never ending cycle that enhances the earth and creates a natural sink for the carbon dioxide generated to provide electronic communications and serves as a true green economic engine across the world.

In addition, paper products stand a much better chance of being recycled properly. Nearly 60% of all paper in the U.S. is recycled annually, while only 18% of electronic devices are; and of those that are, almost none are being reused for other products. E-waste is the nation's single largest toxic waste export.

Some Interesting Facts, Courtesy of International Paper

- 20% Less CO² is used per year by a person read-

ing a daily printed newspaper versus a person reading web-based news for 30 minutes a day.

- On average it takes 500 kilowatt-hours of electricity to produce 440 pounds of paper, the typical amount of paper each individual uses in a year. That's the equivalent of powering one computer continuously for five months.
- It costs an estimated \$2.8 billion of energy to leave computers sitting idly overnight in the U.S. On a CO² basis, that's an amount equivalent to four million cars on the road.

The paper industry has had much more time to figure out how to be sustainable and responsible. In time, the electronics industry will do the same. But, until then, paper and printed communications have the upper hand when it comes to being sustainable. And while a balance is required between the two for effective communication, it is important to keep the above facts in mind when finding that balance.

How to Be a Green Business When It Comes to Printing

I hope this book has provided you enough knowledge about the printing process and also green printing to be able to make the right decision for your company in this regard. Today, there are as many businesses using sustainability as a marketing tool without actually practicing it, as there are those who really are green. This is also true when it comes to printers themselves. This is good because it promotes green printing more rapidly, but it also creates an environment which makes it harder for those who are actually doing it right, to compete. It is important to know the differences and patronize

the real green printers.

Ten Steps to Become a Green Business

The U.S. Government has a ten-step program, on its official business link, of how to become a green business. Business.gov is an official site of the U.S. government which helps small businesses understand their legal requirements, and locate government services supporting the nation's small business community.

Here are the ten steps recommended by business.gov:

Step 1: Comply with Environmental Regulations

As a green business, you should practice what you preach. This means complying with all environmental regulations relevant to your business. Compliance not only protects the environment, it protects your business from fines and legal action from the government. Consult the Environment Regulations section of the Green Business Guide for more information.

Step 2: Develop an Environmental Management Plan

Running a green business means creating an environmentally-friendly, energy efficient workplace. A sound environmental plan will help minimize your company's eco-footprint, and encourage green business practices throughout your organization.

Step 3: Build Green

If you are opening a business in a new or remodeled building, make sure you build green and install en-

ergy-efficient heating and air conditioning systems, appliances, equipment and lighting. Consult the following resources for more information:

- Small Business Guide to Energy Efficiency
- Green Building Resources

Step 4: Buy Green Products

Consider buying green products that are

- made from post-consumer, recycled materials;
- bio-based;
- non-toxic;
- energy efficient rated products, such as Energy Star®;
- renewable and recyclable;
- and locally produced, such as food that is locally grown and organic.

Step 5: Adopt Energy Efficient Practices

Good energy management is good business. The prudent and conservative use of energy is one of the easiest and most cost-effective steps you can take to cut costs, increase profitability, and create shareholder value. Given the potentially high returns and minimal risk, implementing energy efficiency practices is at the core of most business environmental management strategies. An energy management plan may include:

- conducting an energy audit. Whether you are opening a home-based business or moving into

GO GREEN On Your Next Print

an existing commercial building, having an energy audit conducted on your facility will help you quickly identify areas where you can save energy costs.

- purchasing Energy Star appliances and office equipment.
- providing energy saving tips to your employees.
- looking for green power and renewable energy sources.

Step 6: Reduce, Reuse, Recycle Waste

Most businesses can save a substantial amount of money by reducing waste. In addition to lower removal costs, waste reduction measures help cut costs on raw materials, office supplies and equipment. Furthermore, by streamlining your operations to reduce waste, you may also be able to enhance your overall efficiency, productivity and public image.

Develop waste management procedures throughout your operations that include:

- use of post-consumer, recycled products;
- elimination of excessive product packaging materials;
- optimized use of paper products;
- and participation in recycling programs, such as EPA's WasteWise.

Step 7: Conserve Water

The increased demand on our nation's water supply

is threatening human health and the environment. By implementing a water efficiency program, you can not only help conserve this precious resource, but cut your costs associated with buying, heating, treating and disposing of it.

- Have a water audit conducted at your facility by your local water agency.
- Conserve water using best available technology and water saving equipment utilities.
- Minimize discharges to sewer/wastewater.

Step 8: Prevent Pollution

Every business generates waste. For some, it may be only waste paper or dirty water; for others, it may be hazardous or toxic wastes that require special handling and disposal.

Whatever the type or volume of waste your company generates, it is costing you money. You pay for what you use twice - once when you buy it and the second time when you throw it away. The bottom line is that preventing waste will save you money.

Step 9: Create a Green Marketing Strategy

If you are starting a green business, you need to market yourself as one. Adding "green" claims and eco-labels to your marketing strategy will enhance your brand image and secure your market share among the growing number of environmentally concerned consumers.

Step 10: Join Industry Partnership and Stewardship Programs

The U.S. Environmental Protection Agency (EPA) sponsors a wide variety of industry partnership and stewardship programs that aim to reduce the impact of industrial activities on the environment. These partnerships will help you build relationships with other green business owners in your industry, and build a brand that's credible with your customers.

How to Chose a Green Printer

When it comes to finding a green printer, it may not be as easy as it sounds. Most printers claim they are green, but are they green enough? Here is a check list to know how green your printer is really is:

- a. Are they a certified member of any forest management organizations, like the FSC, or the FSI? And how long have they been a member? The longer they have been a member the better.
- b. Do they use chemical free plates? Visit their manufacturing facility and ask them to show you how a plate is made.
- c. Are they in full compliance with all environmental regulations? Take a tour of the facility and ask them to show what chemical they use and how they dispose of them. It is much easier to compare two print manufacturing facilities after you actually take a tour of the shop.
- d. Ask what type of ink they use every day. Look at the label on a can of ink while taking a tour.
- e. Ask them about the recycling program, what do they recycle and how?
- f. Finally, ask what sets them apart from their

competitors, and have them show it to you as they give you a tour of their manufacturing facility.

g. The type of paper used is as important as any other aspect of green printing. However, the customers can choose any paper and most printers have access to any paper stock. This is just a matter of customer preference and your budget.

If you are serious about green printing, you should take a few hours and visit any print facility you would like to consider for your next print project. The answers to above questions will be very similar from all printers without visiting their shop. The most important step you can take toward choosing a green printer is to visit a couple print facilities and make a visual comparison. Once you visit two different printers and take a tour of their manufacturing facility, you will form a quick opinion as which is greener. Without a tour of the shop, it is almost impossible to distinguish the difference. You will be surprised how different two plants could be.

How to Make Sure Your Printing Is Green

- a. Start by choosing a reputable green printer.
- b. Choose a paper that is made with some post-consumer recycled material or that is certified by a third-party organization.
- c. If the paper is certified, make sure your entire project is also certified by the same organization, and has the certification logo printed on your materials.

d. Ask your printer to use soy-based ink, and chemical-free plates, if possible.

Let's face it, it would take a little extra effort on your part, and it may add a little to the cost of the project to go green. This is a small price to pay for a cleaner environment. As more people become conscientious about green printing, it becomes simpler and more standard. We sometimes take for granted the air we breathe and the nature we enjoy. If you ever visit a place with polluted air quality or industrialized pollution, you will appreciate nature more than ever. There are those who are leaders and those who follow them. Be a green leader and clear the path for a healthier future for your children and for future generations.